

1. (Currently Amended) An electronically commutated motor (10) comprising

a permanent-magnet rotor (16) and

a stator having at least one stator winding (12, 14);

~~a respective field effect transistor (20, 22) for commutating the current (I) in each stator winding (12, 14); and~~

~~a component coupled to said field effect transistor for influencing the working range of each respective field effect transistor (20, 22) in such a way that the latter produces, during energization of said stator winding associated therewith, a substantially constant current (I) through the stator winding (12, 14).~~

a microcontroller (36) for generating at least one commutation signal (OUT1, OUT2) for switching the current (I) in said at least one stator winding (12, 14) on and off; and

a device (36) for generating at least one second signal (51) to influence the magnitude of the current (I) that flows, during operation, through that stator winding (12, 14) when and if switched on by the commutation signal (OUT1, OUT2);

a first field-effect transistor (22), connected in series with the associated stator winding (14), and to whose gate (G) the commutation signal (OUT2) is applied, via a voltage divider (42, 46),

wherein a resistance (46) of that voltage divider (42, 46) is arranged between that gate (G) and

a point (26) having a predetermined electrical potential; and

a second field-effect transistor (48), arranged between the source (S) of the first field-effect transistor (22) and said point (26) having the predetermined electrical potential, and to whose gate (G) the second signal (51) is applied, to modify the voltage drop ( $U_{DS}$ ) at the second field-effect transistor (48) as a function of said second signal (51), in order to influence a pinch-off voltage ( $U_{GS}$ ) of the first field-effect transistor (22).

2.-11. (Cancelled)

12. (New) The motor according to claim 1, wherein the second field-effect transistor (48) is configured to influence the working range of the first field-effect transistor (22) in such a way that the latter produces, during the respective energization, a substantially constant current (I) through the associated stator winding (14).

13. (New) The motor according to claim 12, wherein the second field-effect transistor (48) is configured to operate the first field-effect transistor (22) as a pinch-off current source.

14. (New) The motor according to claim 13, further comprising a variable resistor (50) exerting control on the second field-effect transistor (48).

15. (New) The motor according to claim 1, wherein said second-signal-generating device (36) is configured for exerting control on the second field-effect transistor (48).

16. (New) The motor according to claim 1, wherein the second signal is a digital control signal (51) having a pulse duty cycle that controls the voltage drop ( $U_{ds}$ ) at the second field-effect transistor (48).

17. (New) The motor according to claim 16, wherein the digital control signal (51) is supplied to the second field-effect transistor (48) as a smoothed signal.

18. (New) The motor according to claim 16, further comprising a low-pass filter (52, 54) arranged in-between the device (36) and the gate (G) of the second field-effect transistor (48), the low-pass filter (52, 54) being configured to smooth the digital control signal (51).

19. (New) The motor according to claim 1, wherein  
a plurality of stator windings (12, 14) are provided,  
each having an associated field-effect transistor (20, 22),  
the gate (G) of which is supplied with an associated commutation  
signal (OUT1, OUT2) provided by the device (36) for switching the  
current through the respective stator winding (12, 14) on and off, and  
wherein the second field-effect transistor (48) is arranged  
between the source terminals (S) of the first mentioned field-effect  
transistors (20, 22) and said point (26) having a predetermined  
electrical potential.

20. (New) The motor according to claim 1, wherein  
the device (36) for generating the at least one  
second signal (51) is implemented as a microcontroller (36).

21. (New) A method of controlling an electronically commutated motor (10), having a permanent-magnet rotor (16) and a stator having at least one stator winding (12, 14), a microcontroller (36) for generating at least one commutation signal (OUT1, OUT2) for switching current (I) in that stator winding (12, 14) on and off, and a device (36) for generating at least one second signal (51) for influencing the magnitude of current (I) that flows, during operation, through that stator winding (12, 14), when and if switched on by the commutation signal (OUT1, OUT2), a first field-effect transistor (22) and a second field-effect transistor (48), the first field-effect transistor (22) being connected in series with the associated stator winding (14) and having a gate (G) that is connected to a resistance (46) of a voltage divider (42, 46) arranged between that gate (G) and a point (26) having a predetermined electrical potential, and the second field-effect transistor (48) being arranged between the source (S) of the first field-effect transistor (22) and the point (26) having the predetermined electrical potential,  
the method comprising the steps of:

supplying the commutation signal (OUT2) via the voltage divider (42, 46) to the gate (G) of the first field-effect transistor (22);  
and

supplying the second signal (51) to the gate (G) of the second field-effect transistor (48), to modify the voltage drop ( $U_{DS}$ ) at the second field-effect transistor (48) as a function of that second signal (51), in order to influence the pinch-off voltage ( $U_{GS}$ ) of the first field-effect transistor (22).

22. (New) The method according to claim 21, wherein said step of influencing the pinch-off voltage ( $U_{GS}$ ) of the first field-effect transistor (22) comprises influencing the working range of the first field-effect transistor (22) in such a way that the latter produces, during the respective energization, a substantially constant current (I) through the associated stator winding (14).

23. (New) The method according to claim 22, wherein influencing the pinch-off voltage ( $U_{cs}$ ) of the first field-effect transistor (22) comprises operating the first field-effect transistor (22) as a pinch-off current source.

24. (New) The method according to claim 21, further comprising: smoothing the second signal (51) using a low-pass filter (52, 54) arranged between the device (36) and the gate (G) of the second field-effect transistor (48).